

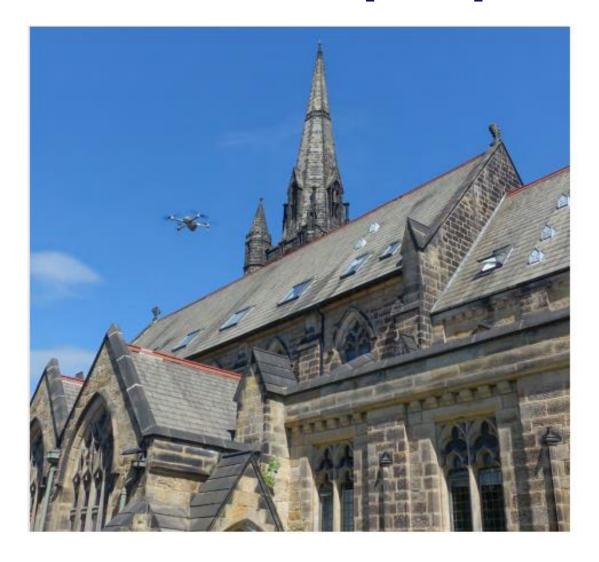
Jenny Ward, Deputy Director of Future of Aviation, Department of Transport 18th April 2024 ARPAS conference

1. Why Government consider these technologies important for the UK

- Benefits to UK citizens through better services and societal benefits
- Environmental benefits through fewer emissions and use cases
- Green economic growth through jobs, exports, and investment



Safer, faster and cheaper public services



Environmental benefits by reducing emissions





Economic growth and jobs



2. What is Government's approach







AMBITION AND LEADERSHIP TO SET DIRECTION

WORK IN PARTNERSHIP

LEARNING BY DOING

Ambition and leadership



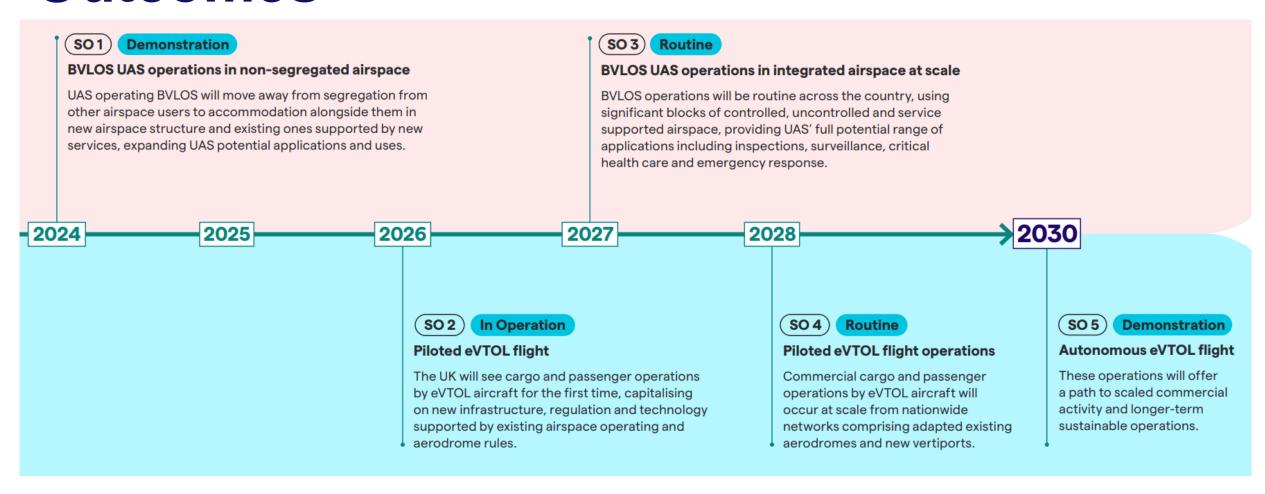
Capturing the potential of new technology and its uses was outlined as one of ten priorities for the aviation sector over the next decade in "Flightpath to the Future", May 2022.

Set direction and work closely with industry and the regulator to develop and publish **a plan for the Future of Flight.** The plan will set out the steps the Government and the regulator will take over the next three to five years to facilitate bringing these new air mobility services to market.

Our vision is that by 2030 commercial drones will be commonplace in the UK in a way that safely benefits the economy and wider society. Drones will deliver new capabilities, boost productivity and reduce emissions and risk to life, while sharing airspace equitably and safely with other users".

Drones Ambition Statement, July 2022

Future of Flight Action Plan - Strategic Outcomes



Working with industry-The Future of Flight Industry Group

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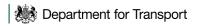






The FFIG brings together senior figures from Central Government, the independent Regulator, and Industry. It was set up in February 2023 to develop and deliver a Future of Flight Action Plan. It meets quarterly and the last meeting was in March.





Working across Government



Department for Business & Trade



Department for Culture Media & Sport



Department for Levelling Up Housing & Communities



Department of Health & Social Care











Department for Science, Innovation, & Technology



Ministry of Justice





Working internationally









Learning by doing

"The Future Flight Challenge will build on the UK's leading position in aerospace and aviation to develop technologies which will deliver benefits across the environment, the economy and society"

Professor Sir Mark Walport Chief Executive, UK Research and Innovation





3. What is the UAS pathway

Planning System - Consider how the planning system can support delivery of infrastructure

needed to enable the Future of Flight and make it work for communities

Industry

5. Delivering the Vision **UAS Pathway to Achieving Strategic Outcomes 1 & 3** 2023 2024 2025 2026 2027 Operational BVLOS in uncontrolled airspace, supported by ground Increased BVLOS in TMZs **BVLOS** in temporary (SO1) Demonstration of BVLOS UAS operations in non-segregated airspace (SO 3) capabilities (90-day) and segregated infrastructure demonstrated **Routine BVLOS** airspace (Temporary Danger Areas (TDA)) **UAS** operations in Trials: Scaled BVLOS in 'atypical' air environments integrated airspace in uncontrolled airspace supported by ground in temporary (6–12 months) Reserved at scale Increased BVLOS in TRAs Areas (TRAs) using communicative uncontrolled airspace technology with other users in in 'atypical' air environments presenting BVLOS in TMZs in uncontrolled airspace and Transponder Mandatory Zones (TMZ) low risk of collision: controlled below 500ft Technology Industry-led development of traffic management, detect and avoid, and electronic conspicuity solutions - key technological developments providing visibility and the ability to avoid other aircraft so UAS can safely integrate into airspace development Certifiable ground-based DAA solutions - industry-led solutions providing the Certifiable on-board EC & DAA solutions -Technical, authority and organisation requirements ...to support airspace for UTM providers - pending successful trials and ability to detect and avoid other aircraft using ground-based infrastructure industry-led solutions providing the ability to integration detect and avoid other aircraft and provide visibility emonstrations of technical ability, regulations will be plemented to govern UTM provision Uncrewed Traffic Management (UTM) sandbox - CAA-led simulated trials of industry-led raffic management services that allow UAS to be safely integrated into airspace Physical trials of system-wide information management (SWIM) solutions - physical trials of industry developed solutions will support integrated management systems by enabling the management of Air Navigation Services provided to users Access and Updated airspace change process - Process established in October 2023 came Updated airspace change portal - The portal will be updated routinely, allowing for new users regulation to force to Jan 2024. This improves the process for operators to sponsor changes sponsor airspace change requests necessary for UAS operations o airspace and accommodate new operations using appropriate standards ...for quicker and Potential development and publication of further PDRAs based on evidence base and industry demand easier assessment of ending a comprehensive understanding of demand supplied by industry. The most common applications Updated airspace management policy - using evidence gathered from trials, operation application rill be used for Predefined Risk Assessments to speed up access to repeatable operations we will pave the way for sustainable BVLOS through the use of TMZs applications Fully digitised SORA process for operational Future Flight Challenge Phase 3 project demonstrations and collection of evidence authorisations - The CAA Digitising Specific by Industry on routine operations - An evidence base of the most common operations Category Operations (DiSCO) project will digitise is necessary to inform the regulators to development of predefined risk assessments he application and risk assessment process for UAS perators, allowing for greater transparency and a Refreshed and digitised Predefined Risk Assessment (PDRA) available for repeatable UAS etter customer experience operations - PDRA01 - Which provides a path to routine VLOS operations - is being reviewed to nake the application process quicker and easier for operators. Once reviewed PDR01 will become the rst type of operational authorisation hosted on the CAA's new digital application platform Adoption of UK Specific Operation Risk Assessment (SORA) methodology - A new way to classify the risk posed by UAS operations, and then identify mitigation and safety objectives to counter those risks **Building an** Expanding scale of UK UAS manufacturing - A growth in scale and variety of commercial operations will increase demand Production of UAS at scale, meeting flight, worthiness, standards and trialing of certified and/or autonomous UAS - Using existing and updated regulatory frameworks, industry trial conditions will be used to advance and certify the autonomous capabilities of UAS Consultation and publication of framework for UAS flightworthiness - Standards of A network of CAA-accredited Flightworthiness ...that works for the UK Assessment Entities - An industry of competent lightworthiness will be established as a means to assess the suitability of aircraft to perform and its communities perations, providing greater assurance of safety organisations will be used to assess the robustness of mplementation of manufacturing standards for UAS aircraft being operated supporting the increased scale UKCA markings will testify to UAS on the market being safe and complexity of uses Consultation and publication of Advanced Remote Pilot Competency - Establishing the future pilot ompetency requirements needed to enable more complex and scalable UAS operations National noise policy for UAS - To ensure UAS Framework for addressing the legal implications of Future of Flight technologies - Following services are safe and acceptable for communities research commissioned by Future Flight Challenge, Government will have a framework for addressing legal implications of Future of Flight technologies, including over privacy and overflight Public sector procurement for UAS services - Blueprints for delivery of non-military public services using UAS, including in health, coastal monitoring and search & rescue Government

Community Integration

Engage communities early and consistently. Ensure technologies deliver the benefits and concerns are addressed.

Actions -

Government will support local authorities in introducing Future of Flight into planning and communities. The Government intends to consult on the introduction of new National Development Management Policies and corresponding changes to the National Planning Policy Framework this year, which will be subject to a public consultation and Strategic Environmental Assessment. The Department for Transport will work closely with the Department for Levelling Up, Housing and Communities (who are responsible for national planning policy) and expect that any future aviation and planning policy we consider will continue to build on the existing framework.

Industry will work with Local Authorities on locally-appropriate solutions.

Industrialisation

Support UK industrialisation of UAS and eVTOL supply chains through access to scale-up and export finance.

Actions

Government and **Industry** will develop joint industry-government mechanisms to support industrialisation post Future Flight Challenge.

Skills & People

Create a community of professional staff including pilots, engineers and designers, through world-leading training programmes and education pathways supported by standards.

Infrastructure

Digital

Connect stakeholders digitally, across a secure UK-wide network that supports a safe and efficient ecosystem.

Standardisation

Develop industry-wide interoperability and harmonisation of solutions, using new standards.

Autonomy

Develop autonomous capabilities offering the ability for aircraft to safely deliver function and services at maximum scale with a diminishing level of human involvement.

Actions

Industry will invest in UK aviation skills and pilots continuously.

Government will publish a skills gap analysis and acquisition strategy in 2024.

Actions

Industry will undertake a consultation in 2024 and deliver digital services to support safe airspace integration in 2025.

Government will explore introducing 'Digital' flight rules for digital operation of aircraft.

Actions

Industry will steer the creation of effective standards through BSI's Future Flight Standards Programme.

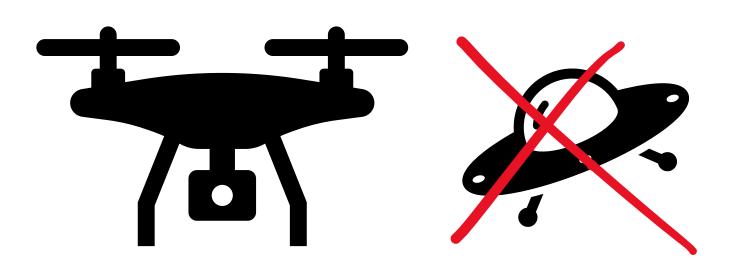
Government will ensure consideration of industry standards by regulatory and legislative frameworks.

Actions

Industry will continuously develop safe autonomous capabilities and systems, working with the CAA to trial and certify these.

Government will review the legal challenges of autonomous flight by 2025 and update the legal framework accordingly in response to findings.

Technology Development to support airspace integration



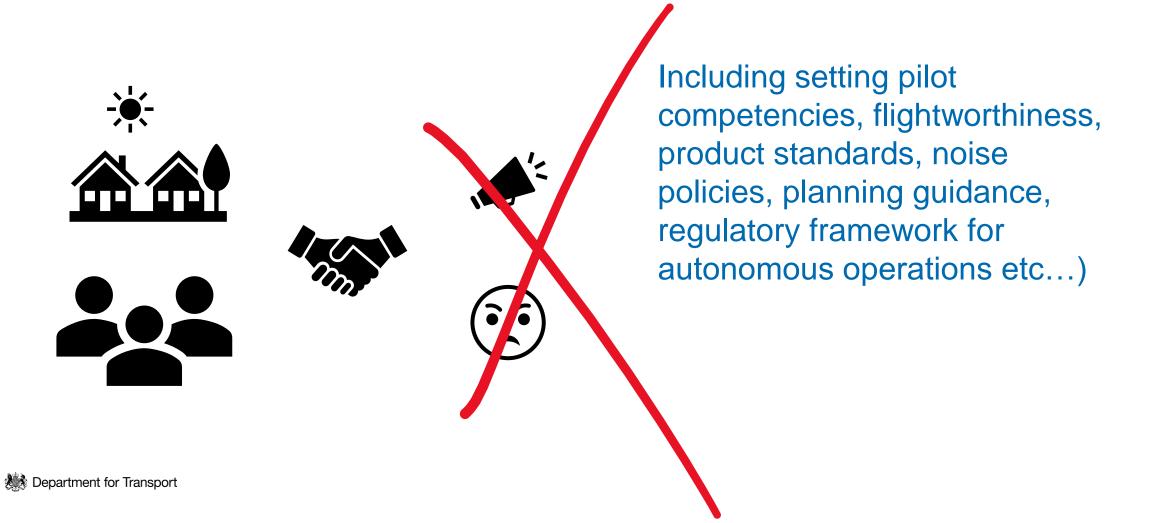
Including technologies and trials of electronic conspicuity, detect and avoid, integrated airspace management

Access and regulation for quicker and easier assessment of operation applications

For example, digitising assessment, and pre-risk defined assessments



Building an industry that works for the UK and its communities





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